



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/594,174

09/26/2006

Hideshi Hattori

CU-5102 RJS

7751

26530 7590 02/18/2009  
LADAS & PARRY LLP  
224 SOUTH MICHIGAN AVENUE  
SUITE 1600  
CHICAGO, IL 60604

EXAMINER

KOSSON, ROSANNE

ART UNIT

PAPER NUMBER

1652

MAIL DATE

DELIVERY MODE

02/18/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/594,174	<b>Applicant(s)</b> HATTORI ET AL.	
	<b>Examiner</b> Rosanne Kosson	<b>Art Unit</b> 1652	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 21 January 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 7-16 is/are pending in the application.
- 4a) Of the above claim(s) 16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 7-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 September 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                       | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>11/13/06,9/3/08</u> .   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Election/Restrictions***

Applicants' election without traverse of Group 1, claims 7-15, in the reply filed on January 21, 2009 is acknowledged. Claim 16 is withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a non-elected invention, there being no allowable generic or linking claim. No claims have been amended, canceled or added. Accordingly, claims 7-15 are examined on the merits herewith.

### ***Claim Objections***

Claims 7-15 are objected to because of the following informalities. The claimed method should comprise steps and not processes. Claim language in conformance with U.S. patent practice is required. The claims should be amended to refer to each process as a step. The claims may recite, e.g., "A method for producing a cell culture substrate, comprising: forming ...; irradiating energy to ...; and attaching or adhering a cell to ..." Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 7-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Art Unit: 1652

Claim 7 recites a "light shielding portion," but it is not clear what a light shielding portion is. Is it a portion of the substrate? Is it a portion of something larger?, Is it a portion of the material used to shield a section of the substrate? do Applicants mean simply a light-shielding material? It is further unclear if this light-shielding portion is a physical material that is used only in the process of making the product, and would be removed from (or was never structurally integrated into) the final product; or if the light shielding portion refers to the parts of the patterning substrate that cannot be affected by irradiated light. It is noted that if the intended portion refers to an area of the substrate that cannot be affected by light, the term "light-shielding" would be unclear because "light shielding portion" implies that the portion is providing a light shield to something. An area of the substrate not affected by light would be a "light-shielded portion" of the substrate. If, on the other hand, the intended portion refers to a portion of the material used to shield an area of the substrate, then the term "light-shielding" would be correct..

Claims 10-12 recite that the "cell adhesion inhibiting portion" is irradiated during the cell adhesion process. But, claim 7 recites, in the second step, that the light shielded (partially masked) cell adhesion layer is irradiated to create the pattern of areas to which cells do and do not adhere. It is not clear if the method in claims 10-12 has one irradiation step or two. Two different processes appear to occur during one irradiation step. Clarification and appropriate correction are required. These claims may be amended to recite that the method further comprises a second irradiation step.

Similarly, claims 13-15 recite that the "cell adhesion inhibiting portion" is irradiated during the "cell pattern retaining process." But, claim 7 recites, in the second step, that the light shielded (partially masked) cell adhesion layer is irradiated to create the pattern of areas to

Art Unit: 1652

which cells do and do not adhere. It is not clear if the method in claims 13-15 has one irradiation step or two (one irradiation to create the pattern of cell-binding and non-cell-binding areas and a second irradiation to bind cells to the substrate on the cell-binding areas). Two different processes appear to occur during one irradiation step. It should also be noted that it is unclear as to which pattern is being retained because after the cells bind, the method requires irradiation which would result in those cells attached to the light-sensitive sections of the substrate to detach from the substrate. The cell adhesion pattern prior to irradiation is not the same after irradiation, thus it is not apparent that a cell adhesion pattern is retained. Clarification and appropriate correction are required. These claims may be amended to recite that the method further comprises a second irradiation step.

### ***Double Patenting- Obviousness-type***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Art Unit: 1652

Claims 7-15 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 8-10 of copending Application No. 11/044,700. Although the conflicting claims are not identical, they are not patentably distinct from each other because the instant claims are drawn to a method of making a patterned cell culture substrate in which a light-shielding material (light shielding portion) is placed on the substrate, the light-shielding material, or a layer containing a light-shielding material and a photocatalyst, is coated with a cell-adhesion layer, and the device is irradiated from the back side to decompose the unshielded regions of the cell-adhesion layer, creating a pattern of zones to which cells do and do not adhere. The copending claims are drawn to a method of making a patterned cell culture substrate in which the substrate is coated with a cell-adhesion layer, the cell adhesion layer faces a photocatalyst layer, and the device is irradiated from a given direction to decompose the unshielded regions of the cell-adhesion layer, creating a pattern of zones to which cells do not adhere. The copending claims do not recite a light-light shielding material, but the comprising language in the claims does not exclude a light-shielding material, and the light-shielding material is necessary to create the pattern of adhesive and non-adhesive zones. Moreover, the light-shielding material, as well as irradiation from the back side as the given direction (which are encompassed by the copending claims) are disclosed in the copending specification (see Figs. 2, 4, 7 and 12 and pp. 27-30, 39-41 and 60-61). The copending claims recite a cell adhesion layer and photocatalyst-containing layer, but these are recited in instant claim 9. Therefore, these inventions are not patentably distinct.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

No claim is allowed.

Art Unit: 1652

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rosanne Kosson whose telephone number is (571)272-2923. The examiner can normally be reached on Monday-Friday, 8:30-6:00, alternate Mondays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nashaat Nashed can be reached on 571-272-0934. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Rosanne Kosson  
Examiner, Art Unit 1652  
rk/2009-02-06

/Delia M. Ramirez/  
Primary Examiner, Art Unit 1652